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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/837,102      | 04/18/2001  | Hideo Nobuhara       | 13409.3US01         | 9004             |

23552 7590 12/05/2002

MERCHANT & GOULD PC  
P.O. BOX 2903  
MINNEAPOLIS, MN 55402-0903

EXAMINER

BOYD, JENNIFER A

|          |              |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

1771

DATE MAILED: 12/05/2002 /

Please find below and/or attached an Office communication concerning this application or proceeding.



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7590

11/20/2002

Mr. Curtis B. Hamre  
MERCHANT, GOULD, P.C.  
3100 Norwest Center  
90 South Seventh Street  
Minneapolis, MN 55402-4131

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**Office Action Summary**

Application No.

09/837,102

Examiner

Jennifer A Boyd

FILE

Applicant(s)

NOBUHARA ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 April 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) 16 and 17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.                      6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Election/Restrictions***

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-15, drawn to a filter cartridge, classified in class 442, subclass 327.
  - II. Claims 16 - 17, drawn to a process for producing a filter cartridge, classified in class 28, subclass various.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions II and I are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the process as claimed can be used to make other and materially different product such as a bobbin of yarn.

3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

4. During a telephone conversation with Curtis Hamre on October 21, 2002 a provisional election was made without traverse to prosecute the invention of Group I, claims 1- 15.

Affirmation of this election must be made by applicant in replying to this Office action. Claims 16 and 17 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

***Claim Rejections - 35 USC § 112***

5. Claims 2 and 11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
6. Claims 2 and 11 recite the limitation of the non-woven fabric being long in length. What constitutes being long in length?

***Claim Rejections - 35 USC § 102/103***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-15 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Yamaguchi Osamu et al. (JP 2000-279725).

As to claims 1, 2 and 3, Yamaguchi teaches a filter cartridge consisting of a nonwoven band-like fabric made of continuous thermoplastic and glass fibers wrapped around a perforated tube-like object in a twill form (See Figure, Abstract and claims 1 and 12). The nonwoven band-like fabric is wrapped around the tube, therefore, the nonwoven is relatively long in length.

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As to claims 1, 2 and 3, although Yamaguchi does not explicitly teach the claimed relationship between air permeability of the nonwoven and basis weight of the nonwoven, it is reasonable to presume that the relationship between air permeability of the nonwoven and the basis weight of the nonwoven is inherent to Yamaguchi. Support for said presumption is found in the use of like materials (i.e. non-woven band-like fabric made of thermoplastic fibers wrapped around a perforated tube-like object in a twill form) which would result in the claimed property. The burden is upon the Applicant to prove otherwise. *In re Fitzgerald* 205 USPQ 594. In addition, the presently claimed relationship between air permeability of the nonwoven and basis weight of the nonwoven would obviously have been present once the Yamaguchi product is provided. Note *In re Best*, 195 USPQ at 433, footnote 4 (CCPA 1977) as to providing of this rejection made above under 35 USC 102. In the present invention, one would have been motivated to presume that the relationship between the air permeability and the basis weight would adhere to the given equations provided that the same JIS test method is conducted due to the same filter structure.

As to claim 5, Yamaguchi teaches the fiber intersections of the wound non-woven fabric are thermally bonded by a heat embossing roll (page 4, Means for Solution (4)).

As to claim 6, Yamaguchi teaches the non-woven fabric strip has a width of 0.5 cm or more (page 9, [0037]).

As to claim 7, Yamaguchi teaches the non-woven fabric strip has product value of the width (cm) and the basis weight ( $\text{cm}^2$ ) of 200 or less (page 4, Means for Solution (11) and page 9, [0037]).

As to claim 8, Yamaguchi teaches that the non-woven fabric strip has a width of less than 0.5 cm (5 mm) (page 9, [0037]).

As to claim 9, Yamaguchi teaches an embossing area rate of 5 to 25% (page 8, [0032]).

As to claim 10, Yamaguchi teaches that the filter has a void rate of 65 – 85% (page 4, Means for Solution (10)).

As to claim 11, Yamaguchi teaches that the non-woven fabric is wrapped around the perforated cylinder (See Figure), therefore, the non-woven fabric must be relatively long in length.

As to claim 12, Yamaguchi teaches that the non-woven fabric can be spunbonded (page 7, [0026]).

As to claim 13, Yamaguchi teaches that the non-woven fabric can be meltblown (page 2, [005]).

As to claim 14, Yamaguchi teaches that the non-woven fabric is made of a composite fiber having a low melting point resin and a high melting point resin with a melting point difference of 10°C or higher.

As to claim 15, Yamaguchi teaches that the non-woven fabric is made of a fiber consisting of polyester, polyamide, polyethylene or a polypropylene resin (page 6, [0025]).

#### ***Claim Rejections - 35 USC § 103***

10. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamaguchi Osamu et al. (JP 2000-279725), as shown above.

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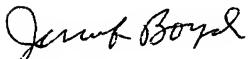
Yamaguchi discloses that the non-woven fabric strip is wound around the cylinder 50 - 1000 times per 1 meter (12.5 – 250 times per 250 millimeters) length of the cylinder (page 9, [0039]). Yamaguchi discloses the claimed invention except for a filter winding range specifically of 1 – 10 times per 250mm and the denominator range of 4 to 40 of the 2-fold value. It should be noted that the number of windings and the denominator range of the 2-fold value of the winding number is result effective variable. For example, Yamaguchi discloses that the adjustment of the number of windings per cylinder length fine tunes the accuracy of the filtration (page 9, [0039]). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have a filter with 1- 10 windings per cylinder length and denominator range of 4 to 40 of the 2-fold value, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). In the present invention, it would have been obvious to optimize the winding range of the filter in order to create the filter with the level of desired filtration.


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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer A Boyd whose telephone number is 703-305-7082. The examiner can normally be reached on Monday thru Friday (8:30am - 6:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 703-308-2414. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

  
Jennifer Boyd  
November 15, 2002

  
11-18-02